

FILE COPY

- The first sentence indicates that contaminated groundwater has been addressed by a Remedial Investigation and Feasibility Study (RI/FS) report prepared pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for the Eastern Michaud Flats site. However, elemental phosphorus contamination has been detected in at least one monitoring well downgradient from the Slag Pit Sump after the CERCLA RI/FS report was completed. The sentence must be deleted from the document. Since the Slag Pit Sump will be closed as a landfill it will have to satisfy RCRA 40 C.F.R. Subpart F groundwater requirements.

2. Section 2.1, page 2-7, second paragraph

Response: The sentence was revised to read: "...formal notification to satisfy the requirements of the Consent Decree, Attachment A, Paragraph 7." A new sentence was added: "The plan is consistent with 40 CFR §265.112 (d)." The reference to 40 CFR §265.228 was deleted.

- The text indicates that if hazardous materials or wastes are encountered during construction of the permanent cap, they will be decontaminated before being disposed of in a nonhazardous waste management unit. If hazardous wastes are encountered, they must be managed in accordance with Subtitle C of the Resource Conservation and Recovery Act.

FILE COPY

- The text states that decontamination rinsate samples will be analyzed for toxicity characteristic leachate procedure (TCLP) metals, but it does not specify the TCLP metals concentrations at which the equipment will be considered to be decontaminated. The text must be revised to clarify this issue. In addition, the text notes that equipment will be considered to be decontaminated if total phosphorus levels in rinsate are less than 1,000 parts per million (ppm).

EPA Comments and Astaris' Responses on the April 2000 Slag Pit Sump Closure Plan

This approach is inconsistent with previously agreed upon criteria for determining that decontamination is complete. The 1,000-ppm criteria must be removed.

Response: A new table showing decontamination criteria has been added as Table 6-1. The addition of a new table results in Table 6-1 being renumbered to Table 6-2. The 1,000 ppm criteria has been deleted and the following sentence added to the text: "The equipment will be considered decontaminated if TCLP levels in the final rinsate are less than those specified in Table 6-1 and if there is no visual observation of elemental phosphorus (P4) as indicated visually by smoke or fire."

5. Section 6.7, page 6-7, second paragraph

This paragraph states that necessary amendments to the closure plan will be submitted to EPA Region 10 within 60 days after any unexpected event that affects the closure plan during closure activities. The document must be revised to state that changes to the closure plan must be approved by EPA. In addition, the modification must be consistent with 40 C.F.R. §265.112(c).

Response: These two new sentences have been added to the paragraph. "Changes to the closure plan must be approved by EPA. In addition, the modification requirements must be consistent with 40 C.F.R. §265.112(c)(2)."

6. Section 7.1.2, page 7-5, second paragraph, item A

The text indicates that the protective cover shall consist of 20 centimeters (cm) of asphalt concrete pavement over 85 cm of slag and sand classified as SP or GW per ASTM D2488 (by definition these soil classifications contain a maximum of 5% fines). However, these classifications are in conflict with the gradation requirements provided in the earthworks specification (SPS-S-14), which describe coarse-grained soils (2-22% fines) that could potentially be classified as GO, GP, GM, GC, SW, SP, SM, or SC per ASTM D2488. The text must be revised to reference the specification requirements rather than the ASTM standard.

Response: The text will be revised to read: "... over 85 cm (22 inches of slag and 12 inches of sand) meeting the requirements as specified in Specification SPS-S-14 (included in Appendix F)."

7. Section 10, page 10-2, Figure 10-1

For consistency, the inspection list provided in Item 2, Inspections, must include those major inspection categories listed in Table 10-2.

Response: "Security" and "drainage systems" have been added to Figure 10-1 Item 2, Inspections.

EPA Comments and Astaris' Responses on the April 2000 Slag Pit Sump Closure Plan

8. Section 10, page 10-2, Table 10-1

The table refers the reader to other documents and requires the reader to be familiar with the remainder of the closure plan for post closure triggers and actions. For clarity, the table must be revised to include measurable triggers that will prompt post closure action at the Slag Pit Sump. Where possible, the actions must be clarified.

Response: The following triggers and actions have been added to Table 10-1 along with a reference to the Interim Status Groundwater Monitoring Plan, August 1999.

Record/Report	Trigger(s)	Action(s)
Quarterly data validation report	Error(s) in laboratory or field data	Repeat measurement Check and/or repeat calibration Repair or replace measuring device Collect and analyze new samples
Statistical evaluation, and Annual Assessment Report	Required annually	Evaluate and perform statistical assessment of groundwater analytical results. Re-evaluate the rate and extent of migration, as necessary.

9. Section 10.5, page 10-9

The frequency of groundwater monitoring for elemental phosphorus is specified as semiannually, but the frequency is not specified for heavy metals, water quality parameters, and field parameters. The document must be revised to include these frequencies.

Response: The frequency “(quarterly)” has been added for all the other parameters.

EPA Comments and Astaris' Responses on the April 2000 Slag Pit Sump Closure Plan

10. Section 10.5, page 10-9

Water level must be obtained quarterly; this parameter must be added to the field parameters for groundwater monitoring. Orthophosphate must be analyzed for quarterly and added to the water quality parameters for groundwater monitoring.

Response: The water level has been added to the field parameters and orthophosphate has been added to the water quality parameters. Attachment 10-1 has also been revised to incorporate orthophosphate into the groundwater monitoring program.

11. Section 10.6, page 10-9, first paragraph

The text indicates that Astaris will perform repairs to the cap as part of the scheduled semiannual maintenance program. However, Table 10-2 indicates that the maintenance program will be implemented on a quarterly basis. The text must be revised to be consistent with the table.

Response: The text has been revised to read: "...scheduled quarterly maintenance program."

12. Section 10.7, page 10-10, first paragraph

The text indicates that Astaris will inspect and repair the storm water management system semiannually. However, Table 10-2 indicates that the inspection and maintenance program will be implemented on a quarterly basis. The text must be revised to be consistent with the table.

Response: The text has been revised to read: "...inspected and repaired quarterly,..."

ATTACHMENT 10-1A, QUALITY ASSURANCE PROJECT PLAN

13. Section 1.3.1, page 6, first paragraph

The paragraph does not relate to the project schedule, which is the subject of this section. In addition, based on language provided in Section 1.4, it appears that Pond 17 must be included in the discussion within this paragraph. The paragraph must be revised and moved to another section, as appropriate.

Response: The first sentence on page 6, Section 1.3.1 and the Pond 17 discussion in Section 1.4 have been deleted. We have also deleted Sections 1.4.3, 1.4.4, and 1.4.5 because the special analyses programs that they discuss have been completed and the discussions are no longer appropriate for the closure plan.

EPA Comments and Astaris' Responses on the April 2000 Slag Pit Sump Closure Plan

ATTACHMENT 10-1B, FIELD SAMPLING PLAN FOR RCRA GROUNDWATER MONITORING OF THE SLAG PIT SUMP (WMU #5)

14. Attachment 10-1B, Field Sampling Plan for RCRA Groundwater Monitoring

The groundwater sampling plan must include a proposal for field blank sampling.

Response: A field blank is part of the groundwater monitoring samples referenced in Section 3.1. Field blank sampling is also identified in Section 5.5.1, fourth paragraph, fourth bullet, as field quality control sampling code: Distilled/de-ionized water blank: FDI. The following sentence has been added to Section 3.2: "Field blank samples will also be collected. Rinsate blanks will be collected at a minimum frequency of one per sampling apparatus."

15. Section 3.2, page 3, first paragraph

The document indicates that duplicate groundwater samples will be collected at a frequency of one per sample delivery group or one per twenty samples collected. The paragraph must be revised to state that duplicate samples would be collected at the *minimum* of one per twenty samples collected.

Response: The first sentence has been revised to read: "At a minimum, duplicate groundwater samples will be collected..."

16. Section 3.3, page 4, first paragraph

The document indicates that laboratory quality control (QC) samples will be collected at a frequency of one per sample delivery group or one per twenty samples collected. The paragraph must be revised to state that laboratory QC samples would be collected at the *minimum* of those options.

Response: The first sentence has been revised to read: "At a minimum, laboratory quality control samples will also be collected..."

17. Section 3.3, page 4, first paragraph

The text states that laboratory QC samples will normally be collected from Well 122 because it contains low concentrations of fluoride and selenium. Additional rationale for this statement must be provided. Because quarterly groundwater sampling may include wells associated with other waste management units, the document must be revised to clarify whether Well 122 will be the source of the laboratory QC samples for the entire sample delivery group or only for the Slag Pit Sump.

EPA Comments and Astaris' Responses on the April 2000 Slag Pit Sump Closure Plan

Response: The text has been revised to read: "A control well(s) is specified for each sampling event and it is the source of the QC sample(s) for the delivery group, at a minimum of one per delivery group or one per every 20 samples. However, if a quality control sample is to be collected from the Slag Pit wells, it should be collected from Well 122. In the fourth quarter of 1999, samples from Well 122 contained detectable concentrations of arsenic and selenium."

18. Section 5.2.1, page 7

The section states that *to the extent practicable*, water level sounding equipment will be decontaminated before and after use in each well (emphasis added). This proposal is unacceptable. Sounding equipment must be decontaminated before use in each and every well. The text must be revised to more fully describe how the sounding equipment will be decontaminated..

Response: The phrase "To the extent practicable,..." has been deleted.

19. Section 5.5, page 10, first paragraph

The last sentence must be revised to state "combination instruments capable of measuring two *or more* parameters may also be used."

Response: The text has been revised to read: "Combination instruments capable of measuring two or more parameters may also be used."

20. Section 5.1.1, pages 5 and 6

The discussion on sample designations is inconsistent with the discussion provided in Section 5 of Appendix B. Both documents must be reviewed and modified to ensure consistency.

Response: Sample designations in Attachment 10-1b and Appendix B have been reviewed. Section 5.1.1 of Attachment 10-1b and Sections 4 and 5 of Appendix B are different because one is for groundwater monitoring (matrix code GW) and one is for decontamination confirmation (matrix code WW). Section 5.1.1, Attachment 10-1b, has been revised to show two digits for the year which is consistent with other closure plans.

21. Section 6, page 12, Table 3

The container requirements for total phosphorus are different than those presented in Table B-1 of Appendix B. Analytical method requirements must be reviewed, and if required, the table must be corrected.

Response: The analytical method requirements have been reviewed. Table 3 has not been revised. However, Table B-1, Appendix B has been revised.

EPA Comments and Astaris' Responses on the April 2000 Slag Pit Sump Closure Plan

APPENDIX B, FIELD SAMPLING PLAN FOR EQUIPMENT DECONTAMINATION CONFIRMATION DURING SLAG PIT SUMP CLOSURE

22. Section 4.2, page 2

The section indicates that deionized water blank samples will be collected each week of closure operation. However, decontamination may not occur during each week of closure operation. Therefore, the specified level of quality assurance is not required. Astaris may revise the text to indicate that one deionized water blank sample will be collected during each week that decontamination occurs.

Response: The sentence has been revised to read: "One de-ionized water blank sample will be collected during each week that decontamination occurs in accordance with..."

23. Section 5.1.1, page 3

The discussion on sample designations is inconsistent with the discussion provided in Section 5 of Attachment 10-1b. Both documents must be reviewed and modified to ensure consistency.

Response: Sample designations in Attachment 10-1b and Appendix B have been reviewed. Section 5.1.1 of Attachment 10-1b and Sections 4 and 5 of Appendix B are different because one is for groundwater monitoring (matrix code GW) and one is for decontamination confirmation (matrix code WW). Section 5, Appendix B, has not been revised.

24. Section 7, page 6, Table B-1

The container requirements for total phosphorus are different than those presented in Table 3 of Attachment 10-1b. Analytical method requirements must be reviewed, and if required, the table must be corrected.

Response: The analytical method requirements have been reviewed. The container size for total phosphorus in Table B-1 has been revised to one liter for consistency with Table 3, Attachment 10-1b.

25. Section 7.3, page 8, Table B-2

The method detection limit (MDL) for total phosphorus by Method 365.4 is different than the MDL for the same method specified in Table 3B of Attachment 10-1a and Table 4 of Attachment 10-1b. Both tables must be reviewed, and the correct MDL must be provided in both tables.

Response: The correct MDL for total phosphorus is 0.01 ppm. Table 4 of Attachment 10-1b and Table 3B of Attachment 10-1a have been revised to be consistent with Table B-2.

EPA Comments and Astaris' Responses on the April 2000 Slag Pit Sump Closure Plan

APPENDIX F, CONSTRUCTION QUALITY ASSURANCE PLAN, TECHNICAL SPECIFICATIONS AND DRAWINGS

26. Technical Specification SPS-S-15, Item 2.2.4.d, page 9

The parenthetical statement on the third line must be revised to "total number of rolls to be deployed at the *sump*".

Response: The specification has been revised.

27. Technical Specification SPS-S-16, Item 2.1.b, page 8, Table 1

For clarity, the puncture resistance method must be revised to "FTMS 101 Method 2065 or ASTM D 4833". For the same reason, the environmental stress crack method must be revised to "ASTM D 1693 or ASTM D 5397".

Response: The specification has been revised.

28. Technical Specification SPS-S-16, Item 2.1.3.c, page 9

The parenthetical statement on the third line must be revised to "total number of rolls to be deployed at the *sump*".

Response: The specification has been revised.

29. Technical Specification SPS-S-16, Item 3.3.2.h, page 13

The item states that flexible membrane liner patches shall be 6 inches larger than the defect to be repaired. The text must be revised to clarify that the patch shall be 6 inches larger along each edge of the patch. For example, if a 4-inch square hole requires patching, the patch must measure the size of the hole, plus 6 inches on every side, or a 16 x 16 inch patch.

Response: The specification has been revised to read: "...a patch that extends at least 6 inches beyond the edges of the defect in every direction and in accordance with..."

30. Drawing 090-C-103

The settlement monument detail shows a boot seal similar to boot seal details provided in other closure plans. However, on June 26, 2000, Astaris modified the GCL boot seal for closure activities at Pond 9E. If the Pond 9E detail will be adapted to the other closures, including the Slag Pit Sump, it must be provided in a revised drawing.

Response: Drawing 090-C-103 has been revised to show the latest boot seal detail as used in Pond 9E.